

Ecology
(BIO 3303)
Baylor University
Course Syllabus – Spring 2017

Instructor: Dr. Jacquelyn R. Duke
Office: BSB A.216
Class: MWF 8:00-8:50am

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“One way to open your eyes is to ask yourself, ‘What if I had never seen this before? What if I knew I would never see it again?’” – Rachel Carson

TEXTS

Elements of Ecology – 9th Edition by Smith and Smith

Silent Spring by Rachel Carson

Popular Press Articles and short essays: Located in the Canvas module

Welcome

...to *Ecology*. This course addresses current issues in ecology and the way that humans are altering our planet. For the first two thirds of the semester we will be exploring basic ecological concepts in order to understand both how ecosystems function and why biodiversity is important to an ecosystem. The remainder of the semester we will explore how humans (human populations, human attitudes, human technology, *etc.*) have begun to enact drastic alterations to ecosystems on a global scale.

“No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. The people had done it themselves.” – Rachel Carson

The overall theme of the course will be to allow you, the non-scientist an opportunity to both learn the ways in which scientists strive for solutions, but also to realize the non-scientific component of working toward sustainable solutions. By examining human nature, and the role humans play in nature, hopefully you will come to understand the irreplaceable beauty of nature, and you will recognize that every member of *Homo sapiens* has the opportunity to choose to live in harmony, or disharmony with our fellow species. If humans have “dominion over ... every living thing that moves upon the earth” (Gen 1:28), then we must use live out that directive wisely, lest we destroy God’s creation.

This syllabus will attempt to address course information by answering the frequently asked questions by students. Please read the entire document and refer to it regularly throughout the course. An electronic version will be posted in Canvas and you will be notified if/when changes are made.

“What’s In It for Me?”

The major goal of this course is for you to learn to critically analyze “scientific” information that you encounter in the popular press; this includes being able to distinguish between science and pseudoscience. Within this major goal, you will:

1. Learn to be a scientist who can articulate the process of science, which defines not only what science is (and can study), but what science isn’t (and cannot study).
2. Learn the basic topics within ecology (the study of the interaction between living systems and their non-living environment, (as studied from a human perspective, and focusing on the human element in an ecosystem)
3. Learn the ways in which scientific knowledge about our ecosystem, and the effects that humans are having on our ecosystem, is both essential to you personally, but can also be very applicable to your life.
4. Learn how to utilize scientific knowledge to empower you to become a better steward of our planet, voter and community leader.

“How Do I Get There?”

*“It is the public that is being asked to assume the risks...
the public must decide whether it wishes to continue on the present road and it can only do so
when in full possession of the facts...” - Rachel Carson*

Weekly articles from the popular press and essays will provide a topic through which we will explore given scientific principles. To accomplish the goals listed above and succeed in this course, you are expected to:

1. Learn to identify basic elements of ecology (terms, definitions and methods of the discipline).
2. Answer 70% or more of the identification, short-answer, matching, true/false and essay questions on exams over the objective content of the course (including point 1. above).
3. Score 70% or more on all assignments (which may include additional reading, website activities, videos, *etc.* not stated in the syllabus).
4. Read popular press articles and essays that further elucidate scientific ideas, and which are incorporated into the lecture material and discussion.

“What Standard Should I Strive For?”

Only *you* can answer the question above. However, below is a guide of course sections and grading components. If you have any questions about the grading policies, or find yourself struggling this semester, make an appointment to see me *earlier*, rather than *later*.

QUIZZES/ASSIGNMENTS - (17%)

EXAMS (4 @ 17%) – (68%)

BOOK PROJECT - (15%)

Course Grading Scale

100-89.5 = A ; 89.4-86.5 = B+ ; 86.4-79.5 = B ; 79.4-76.5 = C+ ; 76.4-69.5 = C ; 69.4-60.0 = D ; < 60 = F

NO exceptions. You will be given the grade you've *earned* at the end of the semester.

“What Are The Course Policies?”

Below are general course policies which will help guide you in making decisions about your time and energy commitment, as well as information to assist you in when exceptions need to be made.

Attendance

In compliance with BU College of A&S's policy *students may miss up to 11 lectures* (though this is **HIGHLY** discouraged). *Absences in excess of this amount (regardless of whether excused or unexcused) will result in the failure of a student to receive a grade for the course.* Attendance will be taken at the beginning of class by me or a teaching assistant. If you are less than 10 minutes late to class, you need to see me after class to sign a late sheet and receive credit for being in class. Record of attendance for late students rests entirely on the student and signing of the late sheet for any given day must be done on that day – no retroactive corrections will be made. *Three lates equal one absence.* If you are more than 10 minutes late, you will be counted absent for that class day. **On exam days any student who enters the classroom after the first student has turned in his/her exam will NOT be allowed to take the exam. This prevents staggered exam taking, which allows for cheating.**

Make-up Work

Any work missed because of illness/family situations may be waived or made up at a time of my discretion *only if* your absence can be documented (on the date of your return) by a note from a physician in the case of illness, or by the university chaplain in the case of a family emergency. If you must miss class because of a University-sponsored event, your absence will be considered excused *only if* you provide me with documentation **prior** to your absence. All absences not fitting this criteria are considered unexcused and offer no make-up opportunities.

Reviewing of Exams

Exams may be viewed within a 2-week period from the date of that exam's posted scores. No exams may be reviewed beyond this time period.

Classroom Etiquette

Personal electronic devices such as cell phones, laptops, beepers, ipods, etc. are **NOT** allowed in class, except when specifically assigned by the professor. Please be respectful by turning them off and storing them away. Use of such will result in an absence for that day; repeated use will result in removal from the course.

A Word on Academic Honesty

Students are expected to follow the Baylor Honor Code at all times. I refer all cases of dishonorable conduct to the Honor Council, as well as taking action myself. Any student violating the Honor Code will be given an F in the course and referred to the Baylor Honor Council for disciplinary action. Students agree that by taking this course, all required papers, exams, class projects or other assignments submitted for credit may be required (by professor notification) to be submitted to TurnItIn.com or similar third parties for review and evaluation of originality and intellectual integrity. A description of the services, terms and conditions of use, and privacy policy is available at: <http://www.turnitin.com>. All students will submit their **own** papers to TurnItIn using **the link provided in Canvas**. Students understand all work submitted to turnitin.com will be added to its database of papers. Students further understand that if the results of such a review support an allegation of academic dishonesty, the course work in question as well as any supporting materials may be submitted to the Honor Council for investigation and further action.

Learning Accommodations

If you need some form of learning accommodation, please inform me during the first week of class. The Office of Access and Learning Accommodation notes that you are the responsible party, and must obtain all appropriate documentation and information regarding needed accommodations from the Baylor University Office of Access and Learning Accommodation (OALA). The OALA phone number is (254) 710-3605.

TITLE IX Office

If you or someone you know would like help related to an experience of sexual violence including sexual assault, harassment, domestic violence, dating violence, stalking or other type of non-consensual sexual conduct, please contact Kristan Tucker, the Title IX Coordinator at Baylor University, by email (Kristan_Tucker@baylor.edu) or phone (254-710-8454). The Title IX Office exists to support and empower students, while allowing them to remain in control. **If you or someone you know feels unsafe or may be in imminent danger, please call the Baylor Police Department (254-710-2222) or Waco Police Department (911) immediately.**

“How Should I Approach the Course To Ensure My Success?”

In addition to the goals and objectives I’ve listed above, here are some of my suggestions for the age-old question: “How can I do well in the course?”

My own approach to each topic is to prepare a "background" lecture; then, for interactive learning, you (and often I) prepare a list of questions and/or discussions points which we address during class. The discussion is intended to be a guide to direct you in analyzing the work for yourself. I find that students often come up with better questions and answers than any I had in mind, and I feel you each make valuable contributions to one another’s understanding.

Because I often get asked, here's what I think would be the *ideal* student approach to each class discussion:

1. Entirely read each assigned reading to get a feel for it as a whole.
2. Read it again, this time while analyzing the study, considering the "science" behind the article, what issue it addresses and/or what solution it proposes or fails to propose.
3. Write a brief response summary to each reading.
4. Come to class; answer with thoughtful and insightful input; take notes to further your understanding.
5. Keep in mind that sometimes we develop strong opinions about a subject that lack current scientific support. Before you cling too tightly to an opinion (yours or someone else's you've come across) spend some time investigating its scientific validity. Even scientists fall into this trap! Again this point is one of the major goals of this course.

Learning is a life-long endeavor and I hope these skills stay with you long after you leave my classroom.

"Who, What, Where and When?" (Course Calendar)

Attached is a *tentative* schedule of the course topics. The *readings* are required material and can be found in the text or on Canvas under Journal Readings; text chapters are strongly recommended, though exam material will largely (90%+) come from lecture materials/discussions. One reason this is a *tentative* schedule is to allow for student input, and the flexibility to spend more time on any topics the students wish to explore further. I also happily encourage you to pass along articles and information that you encounter this semester (getting you to seek out and critically analyze scientific information in the popular press *is* one of the course goals). If I feel your article surpasses, or adds to my contribution, I will certainly amend the course to follow the paths you all choose. If class is cancelled on any dates (i.e. because of poor weather, electricity outage, etc.) that day's activities will be re-scheduled for the next class day unless otherwise indicated.

WEEK 1 – Jan 9

Discussion **Introduction to the Nature of Science; Scientific Inquiry**
 Reading - TBA
Defining Ecology
 Reading - TBA

WEEK 2 - Jan 16

Discussion **Climates and Environments**
 Reading - TBA

WEEK 3 – Jan 23

Discussion **Behavioral Ecology**
 Reading – TBA

WEEK 4 – Jan 30

Discussion **Population Ecology**
 Reading - TBA

EXAM I – Friday, Feb 3rd**WEEK 5 – Feb 6**

Discussion **Community Ecology**
 Reading – TBA

WEEK 6 – Feb 13

Discussion **Species Interactions**
 Reading – TBA

Book Club Discussion - Friday Feb 17th**WEEK 7 – Feb 20**

Discussion **Aquatic/Terrestrial Ecology**
 Reading - TBA

WEEK 8 – Feb 27

Discussion **Island Biogeography**
 Reading - TBA

EXAM II – Friday, Mar 3rd**WEEK 9 – Mar 13**

Discussion **Natural Selection and Adaptations**
 Reading - TBA

WEEK 10 – Mar 20

Discussion **Diversity Explained by the Theory of Evolution**
 Reading - TBA

Book Club Discussion - Mar 24th

WEEK 11 – Mar 27

Discussion **Human Evolution and Human Ecology**
 Reading - TBA

WEEK 12 – Apr 3

Discussion **Human Ecology Cont'd and intro to Biodiversity (no readings)**

EXAM III – Friday, April 7th

WEEK 13 – Apr10

Discussion **Threats to Biodiversity**
 Reading – TBA

WRITTEN BOOK REPORT – Due Apr 12th

Final Book Club Discussion – Apr 12th

WEEK 14 – Apr 17

Discussion **Global Climate Change**
 Reading - TBA

WEEK 15 – Apr 24

Discussion **Conservation**
 Reading – TBA

Last Day – May 1st – Conservation Cont'd

FINAL EXAM – Date: Saturday, May 6th, 9:00 – 11:00 am in our regular classroom.

“We stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road / the one less traveled by / offers our last, our only chance to reach a destination that assures the preservation of the earth.” - Rachel Carson